

**Exploring Customer Perceived Value
in a Technology Intensive Service Innovation**

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ABSTRACT

This study is about value creation in an emerging context of technology intensive professional services. The purpose is to examine what kind of value advertisers derive from a mobile advertising service that is still being developed. The research design followed is a grounded theory approach and the empirical data were gathered through in-depth interviews among 16 retailers who used a mobile advertising service for the first time. The five customer perceived value drivers that emerged from the data are; service quality, service support, service provider's know-how, interaction and pioneer status. In addition, different types of mobile advertisers were identified according to their depth of involvement in the service production. The paper concludes with theoretical implications to value creation in the context of innovative services, and managerial suggestions both to companies providing mobile advertising service and advertisers learning to use this new advertising media.

INTRODUCTION

Value creation forms a very integral area of interest for all fields of business research. Recently, value and value creation has been one of the most addressed topics in theoretical discussion in business-to-business marketing (e.g. Sharma, Krishnan & Grewal 2001). In addition, the ways value can be created through close and collaborative business relationships has been under investigation (e.g. Walter, Ritter & Gemünden 2001).

Although seen as an important issue, the extant theoretical body of knowledge on value creation is still somewhat fragmented and in its infancy (see Ulaga 2003). Value creation is considered as a phenomenon that is difficult to grasp, to conceptualise, and to model, thus resulting in the above mentioned fragmentation in research. This being the case, recent research has addressed the issue of conceptualising value in manufacturer-supplier relationships (Ulaga 2003). However, the discussion on value creation in business relationships has been regarded as especially relevant in the context of professional services (Lapierre 1997; Hirvonen and Helander 2001), in which efforts in conceptualising the phenomenon are rare.

Technological development and especially the fast development of information technology is one of the forces changing the value creation in professional services. Innovations in information technology continue to open up areas for new kinds of professional services, as well as the increase in outsourcing and networking. Mobile technologies enable the creation of various types of new context dependent services (e.g. mobile advertising) and new ways to sell and distribute digital products to customers via mobile devices. Mobile advertising (m-advertising) refers to advertising using mobile devices as communication vehicle. Mobile ads (m-ads) may engage the receivers to discussions and transactions with the advertiser, as well as other customers (see eg. Salo and Tähtinen 2004). The realisation and use of such services creates challenges to managers regardless of whose perspective, buyer's or seller's, is adopted.

This paper addresses value creation in a new and emerging context of technology intensive professional services. The focus is to understand the value perceived by the customer of an innovative mobile advertising service provider. Examining the customer perceived value elements in the emerging mobile advertising business is an important and burning topic. M-advertising offers a potential revenue-generating opportunity for a number of different players (Durlacher, 2000), but the industry is still rather fragmented (Salo & Tähtinen 2004). The value system is in a state of emergence (see Möller & Svahn 2003), since the services are being developed and the service providers are also unsure about the business logic. There is a lack of intermediaries who would bring together the different actors, e.g. software companies, network carriers and operators, advertising agencies, advertisers, media houses. Thus, the service providers and the m-advertisers do not yet know how to best create value together.

Due to the novelty and technology specific features of mobile services, the m-service providers need to understand customer's view on value creation in order to develop the m-service. Accordingly, the customer organisations need to learn how to take part in the m-service production to be able to receive more value from the novel service. Thus, the joint value created between the

advertiser and the m-service provider depends also on the capabilities of the customer. However, professional services often include value creation that is difficult for the customer to assess before the actual services consumption, during it, or even afterwards. High levels of uncertainty are often included to the expected b-to-b relationship value (Hogan 2001). Thus, it is essential that the value creation in professional m-services is made more visible for the customer as well as for the service provider, in order to encourage early customers to invest in learning how to make the best use of the services.

The purpose of this research is to conceptualise what kind of value customers derive from a technology intensive service innovation. In doing this, the study extends the existing research on value drivers in manufacturer-supplier relationships (eg. Ulaga 2003) and in services (e.g. Lapierre 1997) to the context of technology intensive service innovations. The emerging nature of the value system emphasises the uncertainties in the value creation and, thus the customers can beforehand only expect certain relationship value (Hogan 2003).

The research design followed in this piece of theory development comes close to a grounded theory approach (Glaser and Strauss 1967). The empirical setting is a field trial of a multidisciplinary research project that designs and empirically evaluates technology and new mobile services (for details see Ojala et al. 2003)¹. The project offered retailers a functional framework for permission based context dependent mobile advertising. The empirical data was collected through personal face-to-face interviews of all the 16 retailers that agreed to act as m-advertisers in the field trial during autumn 2003.

The study is structured in the following manner. Firstly, the study is positioned within the existing research on value creation. The existing body of knowledge is discussed taking into account the specific features of m-advertising services. Secondly, the applied research design and

¹ The project takes place in a city of 120.000 habitants in one of the Nordic Countries. The retailers that took part in the trial were located in the heart of the city and were mostly small shops, restaurants, pubs etc. without any previous experiences of mobile advertising. The target persons were voluntary consumers that wished to try out new mobile services, of which mobile advertising was one. The trialists borrowed a PDA from the project to try out the services.

the empirical data are described. Thirdly, the results of the data analysis are presented as an empirically grounded classification of the value drivers in emerging professional services. Moreover, the analysis is extended to a description of different types of m-advertisers. Fourthly, besides the research implications, the study allows us to also make a few managerial suggestions.

VALUE CREATION IN TECHNOLOGY INTENSIVE SERVICE INNOVATIONS

In the following sections, the paper is positioned against the existing research on value creation. The primary sources in business marketing, in Interaction Approach and service research that address the topic form the basis of our pre-understanding of the value creation in developing professional services. As professional services are produced and consumed often within the context of business relationships, the first two research streams are used to complement the service research literature. However, before discussing the theoretical understanding, the paper presents the empirical context, namely the mobile advertising service.

Special features of mobile advertising services

Mobile advertising (m-advertising) is one of the most promising forms of mobile commerce (see Varshney and Vetter 2002). Mobile commerce refers to business conducted by using mobile applications and mobile telecommunication technology (Ling 2003). Buying and selling of goods and services through wireless handled devices such as mobile phones and personal digital assistants (PDAs) is another example of mobile commerce. The essence of mobile commerce lies in reaching customers, suppliers, and employees regardless of their current location. It is about delivering the right information to the right place at the right time (Siau et al. 2001).

As any form of mobile commerce, m-advertising can also be seen as radically different from traditional advertising (see e.g. Choi et al. 1997, Tähtinen and Salo 2004). Traditional advertising is primarily targeted at mass audiences, and relies predominantly on one-way mass communication. M-advertising can be, at a low cost, tailored to individual customers, because it efficiently identifies

the receiver, i.e. the user of the mobile device. Therefore, m-advertising is personal interaction with individuals, making it a unique form of advertising.

The empirical setting of this study is part of a larger research project where the m-advertisers were trying out a first production version of a technology intensive m-advertising service. The research project was founded by governmental research foundation and by companies taking part in the project, mostly technology developers. Thus, concerning the empirical context, the fact that actually the advertisers did not need to pay for the advertising is taken into account when analysing the data. Figure 1 describes the setting along with the actors involved. Although the setting is a small net, this paper focuses on the value that the m-advertisers and the m-advertising service provider created jointly. However, the value for the m-advertiser is connected to the value that the m-ad creates for its receiver (e.g. the effectiveness of the m-advertising). Therefore we will next discuss the specific features of m-advertisements from the consumer's perspective, although our empirical data concerns only m-advertisers' views.

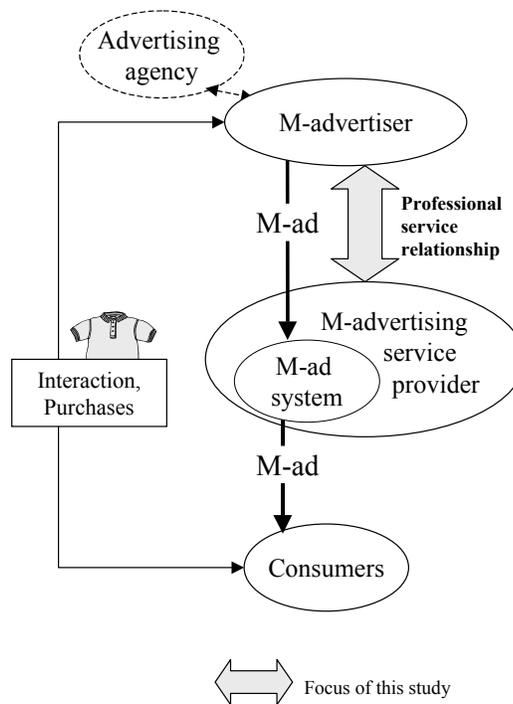


Figure 1. Key players in mobile advertising context

Consumer perceived value adding features of m-advertising identify how the service supplier fulfils the consumer's needs (Clarke 2001). Such features are e.g. personal nature, interactivity and context awareness (Tähtinen & Salo 2004). Barwise and Strong (2002) suggest that mobile phones are the ultimate medium for one-to-one interactive marketing, as m-advertising can fulfil individuals' media goals (see Juntunen 2001). In other words, the m-ads can give the consumer such information that s/he needs at the moment and/or entertain the person (by the use of humour or even cryptic messages), when s/he is in the mood for it. Thus, it is important that the m-advertiser knows the target persons, either via the profiling information they provide to the system, or via advertisers own CRM data (Salo & Tähtinen 2004), and that the messages fit the context of the target persons (e.g. the time of the day, the weather, the situation they are just now).

Elements of customer perceived value

Existing research on value creation has addressed the topic from a network level (e.g. Kothandaraman & Wilson 2001), on the business relationship level (e.g. Hogan 2001, Walter, Ritter & Gemünden 2001) as well as both levels (Möller and Törrönen 2003). As always, when theoretical discussion becomes fragmented, various definitions of the main concept exist. A view that is shared by several researchers regards value as a subjective perception of the trade off between multiple benefits and sacrifices, relative to competition (e.g. de Chernatory, Harris, Dall'Olmo Riley 2000, Ulaga 2003, Walter et al. 2001). This definition highlights not only the benefits gained but also the sacrifices or investments that a customer makes in order to gain the benefits. However, this study wishes to stress the notion that benefits and sacrifices are sometimes far from equal. The difference may be positive, resulting in customer perceived value, or negative, resulting in customer perceived worthlessness. In the latter case, of course, the customer will not continue to use the service in the long run. Thus, this study employs a definition of customer value as a perception of the difference of multifaceted benefits and sacrifices, relative to competition.

Customer perceived value can be related to a single purchase of a good or a service, or to a relationship between a supplier and a customer, or even to a net or network of such relationships. Professional services are always customised (Lapierre 1997) which creates a need for the parties to interact intensively in every phase of their joint value creation (Hirvonen and Helander 2001). Therefore, professional services are often bought within relationships. In business relationships two exchange partners co-ordinate a number of activities in a way that increases their interdependence, thereby raising their joint productivity and creating value (Blankenburg Holm et al. 1999). Therefore, although the focus of this study is on an innovative service, we also incorporate the business relationship level value into the study.

Moreover, this study stresses the importance of the sacrifices, also at the relationship level. The creation and acquisition of value in business relationships depend on the investments the parties make (Johanson and Mattsson 1985). These investment processes vary in the degree of commitment of the parties and the amount of resources available and used in the relationship. Thus the price and process costs (Hogan 2001; Ulaga 2003) vary.

Several authors have addressed the multifaceted nature of benefits and sacrifices as elements of value (for a review, see Ulaga 2003). As a result, various types of categorisations of value criteria (Lapierre 1997), value functions (Walter et al. 2001), value drivers (Ulaga 2003), and aspects of value (Anderson & Narus 2004) have been proposed. This study approaches the elements of value by combining the ideas of Lapierre (1997) and Ulaga (2003), for the following reasons. The context of this study is professional services, likewise of Lapierre's (1997). In addition, Lapierre's (1997) distinction between exchange value and value in use -criteria emphasises the uncertainties (see also Hogan 2001) of the service value perceived by the customer. The perspective of this study is of the customer's, as it is in Ulaga (2003). However, the present study differs from Ulaga's (2003) study in its basic setting in three different aspects. Firstly, Ulaga (2003) studies customer value in established (duration from 2 to 25 years) industrial relationships, and this study focuses on

innovative services that customer companies use for the first time. Secondly, the parties of the relationship do not have existing knowledge of what kind of mobile advertising service is valuable. Thirdly, neither of the parties has experience of the real use of mobile advertising and thus they do not know what kind of mobile ad is perceived as valuable by the members of the target audience. Thus, by integrating the two perspectives, this study seeks to ground the elements of value not only empirically, but also in broad theoretical basis. Before continuing to the empirical study, the paper shortly describes the two classifications of value elements that formed the basis our theoretical pre-understanding of the phenomenon.

Lapierre (1997) classifies value criteria in two levels; the exchange level, which refers to the actual service *process* conducted between the counterparts and the value in use level, which refers to the customer's actual *outcomes* from the service. The elements in value exchange level include technical quality, functional quality, relational variables and image. The elements in value in use level include financial, social, operational and strategic value. The latter types of value criteria are often the most difficult ones to understand by the customer, especially in the professional services.

Uлага (2003) presents a classification of relationship value drivers that indicate the areas of value creation from the customer's perspective in the manufacturing industry. The value drivers include product quality, service support, delivery, supplier know-how, time-to-market, personal interaction, direct product costs and process costs. Product quality includes the performance, reliability and consistency aspects of the product that is being exchanged. Service support includes product-related services, as well as customer information and outsourcing of activities. Delivery value driver is composed of on-time delivery, and the flexibility and accuracy of the delivery. Supplier know-how is related to the supplier's knowledge of the supply market, ability to improve existing products and to develop new products. Time-to-market value driver includes design tasks, prototype development and product testing and validation. Personal interaction is composed of communication, problem solving and mutual goals. Direct product costs form the seventh value

driver and issues such as price in relation to competition, annual price decreases and cost reduction programs are connected to this driver. Finally, the process costs include inventory management, order-handling, incoming inspections and manufacturing.

METHODOLOGY

Grounded theory is a qualitative research methodology that is especially appropriate for obtaining the intricate details and gaining novel understandings about a specific phenomenon under investigation (Glaser and Strauss 1967, Strauss and Corbin 1998). Using a grounded theory approach, theory is derived from empirical data that has been systematically gathered and analyzed through the research process (Strauss and Corbin 1998), although the empirically grounded theory is developed without clear timely distinction between data collection and data analysis. Flint and Woodruff (2001) emphasise that discovery through theory building research is needed when previously developed theories do not appear adequate to answer the current question. This is the case in this study, as the study concerns the value creation in an emerging business area, and the research on the value creation is at an early stage. This study aims at developing a profound understanding of value creation and factors influencing it, and we see that a grounded theory approach aids this aim.

Data collection

Data were gathered through in-depth interviews among 16 retailers who participated as mobile advertisers in a field trial of a research project on new mobile services (for further details see Ojala et al. 2003). The field trial took place during the period between the 28th of August and the 30th of September 2003. Three researchers interviewed representatives of the retailers during October 2003. The interviewees were shop managers and marketing personnel that had been responsible for the firms' mobile advertising.

The unit of analysis for this research is the customer companies' representatives' perceptions of the value that they received from the m-services within the relationship between their company and the provider of the mobile advertising services. In the field trial the research institution was the provider of mobile advertising services. In order to capture the interactive aspects of the value creation, the service provider perspective was taken into account by observing and discussing with the service developers, e.g. technical research personnel. As the study aims at identifying the variety of underlying value elements, all kinds of retailers and service providers were encouraged to take part in the trial. The only requirement was that the retailer needed to be located in the city centre that was covered by the infrastructure (i.e. WLAN network). Thus, the 16 advertisers operate in cloth retailing, bar and restaurant services, insurance services, jewellery retailing and retailing of electric equipment.

The theme interviews lasted about 30 minutes and they were all tape-recorded. Two researchers participated in four of the 17 interviews (in one firm two interviews were made) to make the interview procedure sufficiently consistent between the three interviewers. The themes discussed in each interview were the same but the specific experiences of each advertiser were asked for to get depth below surface responses. Soon after the interviews they were verbatim transcribed.

Data analysis procedures

The verbatim interview transcripts formed the raw data of the analysis. First interpretations of the data were based on multiple readings of each transcript in order to capture a holistic picture of the advertisers' experiences. To facilitate the data analysis the original, word-by-word interview data were imported to the QSR N'Vivo software. Computer software was used to facilitate the storing of the text, coding, searching and retrieving text segments and stimulating the researchers' interaction with the large amount of data (see Dembkowski & Hanmer-Lloyd 1995).

Once the researchers received a holistic understanding of the data, multi-authored open coding in N'Vivo followed. The first coding was based loosely on the researchers' theoretical pre-understanding. Such a taxonomic organisation of the data forms a basis for drawing conclusions (Grönfors 1982, p. 161). During the coding process so-called free nodes and memos were constantly created, consisting of words and lines of the transcripts that gave meaning to the data. Constant refinement of concept definitions and interpretations were tied to specific words and lines within the transcripts, thus opening up the process to scrutiny of all the researchers involved. Interpretations of parts (whether pieces of a transcript or entire transcripts) were compared to each other following grounded theory's constant comparative method.

In the very beginning of the analysis it was noted that the perceptions of the advertisers differ a lot from each other. To be able to better understand the reasons for these differences a classification schema was developed. In developing the schema, we employed the criteria presented by Hunt (2002, p. 230). Firstly, the phenomenon under classification was specified as the nature of mobile advertiser. Secondly, the dimensions for the classification were developed. Thirdly, the classes were developed so that they are mutually exclusive and also collectively exhaustive, in other words all the companies could be classified into the schema, and only one class were identified for each of the companies. Lastly, the classification proved to be useful in differentiating the value drivers of a heterogeneous group of advertisers and in the further development of the mobile advertising services of the project.

CLASSIFICATION OF VALUE ELEMENTS IN MOBILE ADVERTISING

Different types of mobile advertisers

The schema to classify different types of mobile advertisers is based on the sacrifices that the customer companies had made. As noted in the theoretical pre-understanding, value creation in relationships depends on the investments, which vary in the degree of commitment and the amount

of resources available and used in the relationship. However, because our empirical data is derived from a research project, the trial use period was short, the service was free of charge (no price), and there were no alternative service providers, we are unable to analyse the influence of price and competition on the value creation. However, the investment view on value creation in relationships helps to understand the differences in the retailer's value perceptions, although the service was novel and no long-term relationships were developed. The classification presented in Figure 2 is thus important as the value drivers differ between the four types of advertisers.

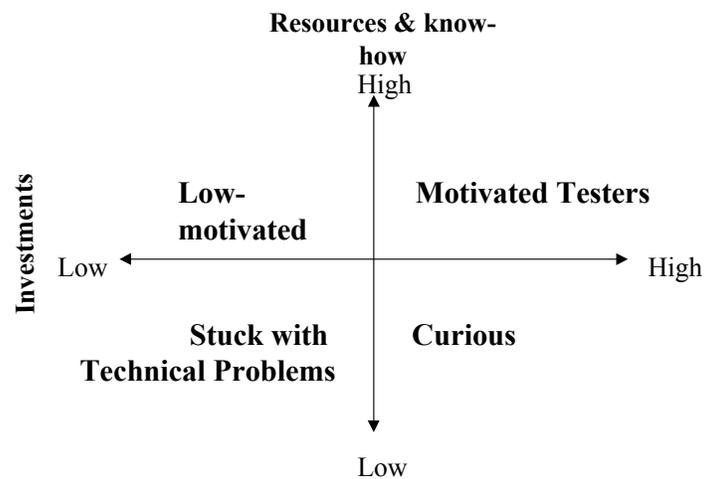


Figure 2. A classification of the users of new mobile advertising services.

Low-Motivated are such m-advertisers who possessed sufficient amount of technical and marketing resources but were not willing and committed to use them without being certain of the results, preferably profits gained. These retailers had difficulties in perceiving the gains of the new m-service for their business and therefore found it difficult to commit any resources to it. This was often related to the fact that the service provider had not reached the right persons within the customer company. Service provider interacted with and provided information to a person who was

not responsible for the customer company's advertising decisions, i.e. not the gate-opener. Since the service was a novel one, 'selling' it inside the customer company would have been important.

The Motivated Testers were such m-advertisers who were able to imagine the possibilities of the new advertising medium right at the beginning. They wanted to experiment and see how the medium works and this is what motivated them and made them to commit their resources to the relationship. Consequently, they expected the service provider to be able to provide them with functioning technology and feedback information (e.g. on end customer response) that would enable them to assess the effects of their experimental m-ads. The Motivated Testers also had suitable technical equipment and enough personnel to take the opportunity to experiment with future business ideas that are not directly profitable yet. They also possessed enough technical and marketing knowledge (either inside the firm or via an advertising agency) to be able to partly or fully self-service themselves with the mobile advertising system.

Stuck with Technical Problems refers to m-advertisers whose main problem was their inexperience with mobile advertising and mobile commerce in general. In addition, they did not have human resources to learn all the new things, since taking care of their daily business took all of their time. Time and other resource restrictions made them very impatient customers. Therefore, any act slowing down the procedures in the mobile advertising service implementation or use or any technical problems made them to give up and reduce their commitment.

Curious retailers were such companies that really did not have any resources for mobile advertising. They did not have the technical equipment (e.g. computers) needed, or any idea on why and how they should m-advertise. However, their general attitude towards trying new things was positive and they were willing to commit themselves, if the service provider was able to compensate their lack of resources. The service provider was prepared to offer the small customer companies turn-key service, so the lack of available resources did not hinder their value creation.

The value elements in mobile advertising services

Five customer perceived value elements in mobile advertising services emerged from the data. A factor that strongly influences the customer perceived value of m-services is the fact the service was operational only for a month. The results indicate the insecurity of the retailers about the characteristics of a good outcome of their interaction with the service provider, i.e. the characteristics of effective mobile advertising. Therefore, the interaction between the m-advertiser and the service provider becomes a key issue. However, this is the situation in which most of the providers of innovative and complex services or products find themselves in their market creation phase. Therefore, the same value elements that are found in this study can be expected to be found in any relationship between a customer and a provider of a technology intensive service innovation.

The value elements that emerged from the data are titled as service quality, service support, service provider's know-how, interaction, and pioneer status. In the following sections we will discuss each element and illustrate them with quotations from the interviews.

1. Service quality

The data showed that to be of value, the m-advertising service needs to be easy to use, reliable and free of technical problems. Sending and receiving m-ads should be an easy and simple process, without the need of technological know-how from the user. This issue becomes the more critical the less resources (time and knowledge) the retailer has. As illustrated in the following quotations the Stuck with Technical Problems companies emphasised this point whereas the more technologically knowledgeable advertisers with strong future-orientation were more understanding:

“At that time when I was really busy I felt like ‘Hey, why this is so complicated’... you needed to have some passwords and that kind of issues. The whole situation was quite unclear.” **Stuck with Technical Problems**

“It [the technology] did not work all the time... but we got very quickly information about that... and from the information material given in the beginning, you could understand the basic elements [of implementation of mobile advertising].” **A Motivated Tester**

On the other hand, the service quality value element consists of the commercial utility and usability of the service. This means that the mobile advertisements need to function in mobile phones that are owned and used by majority of retailers' customers. In the field trial the m-adverts could be sent only to PDAs and their penetration in Finland is very low. The Motivated Testers also expressed some worries about the potential negative impacts of mobile advertising, like spamming, although in Finland, only permission based mobile advertising is legal.

“Think about that this becomes one type of junk mail [from the viewpoint of the consumers] and once again we have destroyed one advertising medium.” **A Motivated Tester**

“[We need to think about] how consumers perceive it: are we now entering their private area. Are we coming too close [when sending ads to personally owned mobile devices]?” **A Motivated Tester**

Service quality appears to be the primary value driver. During the field trial there were severe deficits in the above mentioned dimensions of the service quality. Most retailers experienced some technical problems in the process level of service quality and none of them perceived any outcome level service quality, in other words direct commercial benefits such as increased sales. However, all customers were able to understand the pilot nature of the service to the extent that none of the advertisers refused to participate in the following trials.

2. Service support

In case of this kind of emerging service concept, the supporting service elements proved to be much valued. Although in manufacturing companies, the supporting services are a way of differentiating their offering (Ulaga 2003), in mobile services the service support seems often necessary. Without technical service support, some retailers would not have been able to make any use of the mobile advertising service.

Thus the extent of service support that the retailers valued varied. Advertisers without any technological resources (i.e. no computers with access to Internet) needed support in every phase of m-advertising. In other words the service provider took care of targeting and sending the m-ads, revising and changing the settings etc on behalf of the retailer. Advertisers equipped with suitable

technology (Internet access and design software) were able to use the m-advertising software system (i.e. the content provider interface) on their own. However, they still valued hand-in-hand supervision in the use of the m-advertising service and the functioning of 24-hour help desk service, just in case of any technical problems. In addition, the Motivated Testers had questions related to the technical specifications of the m-ads and then a clear solution needed to be found easily and quickly.

“We got very good information and manuals. So we have not had any [technical] problems. And always when we had something to ask we could send email or call them and the answer came very quickly.” **A Motivated Tester**

Because in the m-advertising services the technology and the ability to correctly use it are very important ingredients, the technical service support was emphasised. However, the retailer’s personnel and help desk persons may have very different levels of technical knowledge. To a retailer the business benefits are the most important and usually they don’t have time to learn the technical details.

“I don’t want to get more information, but simpler information. [...] I don’t give a shit of the technical details: If I leave a newspaper ad in an editorial office I’m not interested in how it is printed and otherwise made, I’m interested in how it looks like in the paper. So I’m not interested in if a Java-technique or any other is used. Those kinds of details are not relevant for a retailer.” **Stuck with Technical Problems**

3. Service provider’s know-how

Although the advertisers very seldom directly took up their lack of knowledge of the requirements of this kind of a new medium as such, the analysis of the made advertisements (see Salo and Tähtinen 2004) reveals that very few of the advertisers were really able to utilise the new characteristics of the medium (e.g. the 3-dimensionality and moving pictures, context-awareness, personalization). However, in the following quotation, a retailer clearly points up this insecure situation of an advertiser trying out a new medium:

“There could have been a meeting with the advertisers where this whole thing [mobile advertising in the field trial] was presented. [...] What kind of possibilities there are? Because it was quite unclear what it [the mobile advertising] is. When you put an advertisement in a small screen of a mobile phone, what kind of it should be? It

differs so much from the normal marketing... its visual image and other such things.” **Stuck with Technical Problems**

Thus, the retailers lacked knowledge related to the characteristics of mobile advertising and how to make use of these characteristics in the design and targeting of the m-ads. As with the previously presented value elements, different types of service users solved this knowledge gap differently. Some retailers turned to their advertising agencies or the corporate marketing personnel for advice. On the other hand, some of the retailers, especially the ones that lacked technical resources, let the service provider’s ‘mobile advertising agency’ design their m-ads. Those retailers expected the provider to have the marketing and design know-how and to use this know-how for the benefit of the customer.

In addition to the design know-how, especially the Motivated Testers would have valued research results on the reactions of the trial users and the impact of their own m-advertising campaigns. Moreover, the Low-motivated advertisers would have valued hard evidence of results (e.g. calculations of created profit or possible new business), however, through the experience of others.

4. Interaction

The data shows that retailers would have valued continuous interaction with the service provider. They felt that the provider should not leave the customer without attention after they have started to use the service. This was especially important, because the service itself was complex, thus the customers felt more insecure than in case of less technology intensive and familiar services. Especially the motivated testers of the advertising medium called for more and continuous interaction from the service provider:

“What has been lacking [...] If also others have confronted technical problems it would have been good to hear right away [from the service provider] that these kinds of problems have come up and what they are doing to solve them. Now we did not hear anything [from the service provider]. In the beginning the information transfer was good but after that it has been quite quiet.” **A Motivated Tester**

”We were given in the beginning that material and the possibility to make the ads but after that we have not got any information. It is the first time when you are here now... I somehow assumed and expected that we would have been informed [...] that when we could expect some persons to enter with a mobile device in hand. [...] That we could have though if the ad has reached anyone.” **A Motivated Tester**

Although the interaction would be intensive, to be of most value, the service provider should be able to reach the right persons in the customer company to communicate with. In the trial, the contact persons of the Low-motivated retailers were not the ones who in practice executed their mobile advertising. Thus, it happened that if the contact persons were busy or did not have strong enough arguments for the use of the new service they became a kind of door closers (see e.g. Halinen and Salmi 2001) in the relationship. Interaction is thus valued, if the right persons are contacted and provided with right kind of information.

”I was in a way alone telling to the others that this is really handy [...] and I gave to the others material to be read and explained it to them. And all the others were like ‘What you are talking about? What nonsense you are talking?’ [...] However, when something new is coming up we want to be there but now when everything [the interaction] was through me [...] It could have been [better] if our personnel, those persons who take care of the advertising, would have been involved from the beginning.” **A Low-motivated**

A final aspect of value provision in the interaction of the service provider was to inform the consumers about the new advertising channel. Because m-advertising is a novel way to advertise the consumers need to be able to opt in to receive m-ads from the retailers.

5. Pioneer status

In manufacturing industries the suppliers may create customer value by speeding up their new product development (Ulaga 2003). In the emerging mobile advertising services this type of a value element also exists but has quite a different content. In the beginning of the trial, the main motivator for the retailers was the desire to be among the first ones who introduce the kind of future way of advertising to the consumers. They valued the goodwill and pioneer status that they expected to reach in the eyes of their customers, as the following quotations reveal.

“[Our firm] is a traditional, old company[...] in some age groups it is maybe seen as a too traditional one, even being foggy. And when I was not the same opinion I thought that this is an opportunity for this kind of a traditional house to show that we are in the spirit of the age.” **A Motivated Tester**

“If you think about our business that we are selling clothes and shoes and we are following the fashion, it would be strange if we would not follow the same logic in our marketing communication. So our logic is to be on the map about what is going on, to be there where our customers are now and in the future.” **A Motivated Tester**

To be able to get the goodwill and pioneer status the public needs to know that a specific retailer is a pilot user of an innovative m-service. Therefore, particularly the Motivated Testers expected the service provider to promote the pilot retailers by using e.g. window posters and media coverage.

DISCUSSION

The paper has highlighted the customer perceived value in technology intensive innovative services. A central theme of the paper is that in such emerging value systems, although the customer perceived value is largely customer expected value, customers still distinguish certain elements of value that they look for in services under development. Five different customer perceived value elements of technology intensive service innovations emerged from the data. Firstly, the *service quality* was regarded as the most important one. Secondly, the *service support*, without which some retailers could not have used the mobile service at all. Thirdly, the *service provider's know-how*, which was valued when it compensated the lack of retailer's know-how. Fourthly, the continuous *interaction* with right persons on right topics. Finally, the *pioneer status* that was an expected value that did not materialise during the short trial. Although the data revealed such elements, this does not mean that the service scored high on all of these elements, since e.g. technical and interaction problems took place during the trial.

All and all, the advertisers were quite forgiving concerning the deficits of the service because they perceived their sacrifices to be either small or totally lacking. This is related to the fact that the use of the m-advertising service was free of charge since it took place within a research project, although real consumers were the receivers of the m-adverts. In addition, the retailers controlled

their own use of resources. Some retailers invested time and effort to receive the benefits, and others made almost no sacrifices at all, since the service provider was willing to provide them with turn-key solutions. Thus, although their perceived benefits would have been on a too low level for a commercial service, they were sufficient enough for a free trial of a service under construction. Thus no mobile advertiser refused to take part in the trials to come, i.e. to continue the relationship with the service provider, since that they all expect to receive value from using the service in the future.

Value creation can also be understood through the two levels, value exchange and value in use (Lapierre 1997). In innovative services of this research, value-exchange level criteria were more apparent to the customers whereas the value-in-use criteria were more difficult to capture. The service quality, service support, service provider's know-how as well as interaction can be seen as the value-exchange level elements of value. On the other hand, the pioneer status -driver can be described as value in use -level element. The pioneer status motivated many retailers to try the new service, although it did not very often realised in practise. The experienced problems and deficits in the value exchange -criteria got the attention of the advertisers and thus the service was regarded as less value creating. Therefore, we suggest that the value exchange level can be seen as a so called hygiene factor in value creation. The value in use level elements are more likely to 'materialise' only in future as the technical aspects of the service develop and as the service providers, advertisers and consumers learn to exploit the possibilities of the new service.

The data also allows us to discuss each four groups of service users separately to show how they differed not only in their perceived sacrifices (see Fig 2) but also in perceived benefits and, more importantly in the changes that the use of the service innovation prompted in their thinking and actions. In any services, the buyer and the seller are both involved in the production of the service. In this case, two groups of users were actively involved in the service production, one group was rather passive and one group did not take part in the production at all. The active groups

are the Motivated Tester and the Stuck with Technical Problems. They both showed changes in their existing activities and thinking as they changed their normal habits of designing advertising campaigns. They thought about how the mobile media changes the rules advertising. The difference in the groups was, that when Motivated Testers encountered problems in using the technology intensive service, they resolved the problems with the help of service support, which the Stuck with Technical Problems were not able to do. The Curious group, although they used the m-advertising service, did not change their own habits of advertising at all. Instead, they briefed the m-ad just as any ad in the local newspaper, and let the service provider's m-ad agency to take care of all the rest. Thus their activity in the service production was limited and no changes in either thinking or actions were shown. The Low-motivated group, although they signed up to take part in the service production, did not use the service at all. They did not expect any value from it, since the service provider could not show any evidence on the expected benefits to the decision makers within the companies.

In sum, the more value the managers expected to gain from the service, the more changes took place in customer's activities and thinking and the more value they perceived. Thus, this research indicates that as suggested by Möller and Svahn (2003) the actors in emerging value systems face many challenges. This research offers support to their proposition that in order to such value systems to emerge, there is a strong need to make sense of the emerging opportunities of creating knowledge and value through radical changes in existing value activities.

CONCLUSIONS

Assessment of trustworthiness

Before we discuss the implications of this study, we wish to draw the readers' attention to the trustworthiness of this study. With respect to credibility, subjective judgements are often seen as risks in qualitative studies (Yin 1989, 41). To avoid this in the present study, researcher

triangulation (Eisenhart 1989) was applied. As mentioned earlier, four researchers performed independent coding and interpretation of the data. Moreover, the researchers were able to jointly discuss each new idea and contradiction in their interpretations of the data. This procedure, although time consuming, provided an important basis for solid analysis of empirical data. The researchers found it a very useful way to conduct data analysis, especially in a situation where a theoretical pre-understanding provided only a loose guidance. In addition, since this study is a part of a larger research project, the preliminary results have already been shared with the members of the project consortium, which includes a leader of the local retailer's association. His comments provided support to our analysis. Moreover, the findings of this study will be presented to every member of the retailer's association during a special seminar in May 2004.

The reliability of the interpretative research was improved by creating a study database, as proposed by Yin (1989). The N'Vivo database thus includes not only the interview transcripts but also research notes through which the development of the researchers' thinking and analysis can be followed in time. Finally, the use of quotations from the interviews aims at providing the reader a chance to follow the researchers' logic from data to interpretation and analysis.

Research implications

The study that has been described here has a number of implications for future. This study extends the existing research on value creation by focusing on innovative and technology intensive professional services. As a result of the empirical analysis, we have made contextual generalisation by taking carefully into account the specific features of the empirical context. Also, we have described these specific features as accurately as possible in the text. Since this is an exploratory study, more qualitative research on technology intensive innovative services is needed in order to further elaborate the elements of customer perceived value in this and other contexts and more quantitative research to test the emerging theory.

With respect to the nature of the business relationship between the customer and the provider of innovative services, there are also avenues for future research. The existing literature has suggested that value creation takes place in close and co-operative relationships, e.g. in terms of joint value creation activities. In the context of technology intensive services, however, the business relationship may be a rather transactional. After an intensive period of relationship development, during which the customer has to be convinced to invest in learning how to make use the service, the service is produced via an electronic interface, e.g. a web page. In the context of mobile advertising, this means that as the new media develops in technical terms, and the customers and the service providers become more experienced in how to apply m-advertising, the service provider - advertiser interaction may become more distant and transactional in nature, although value creation activities still take place. Are the elements of value the same and if not, how will they change once the interaction is mostly electronic?

Managerial implications

This study has shown that customers of technology intensive services differ according to their willingness and ability to change their activities and thinking. This is also reflected in how and what kind of value they gain from the service. For service providers, this knowledge can be applied in segmentation. Service providers need to be able to take into account that if a customer segment lacks technological resources and know-how, the service provider needs to offer turn-key solutions. Such solutions, of course, demand more manpower from the service provider, since the customers are not able to use the electronic interfaces at all, or without considerable service support. Thus, for a service provider, it is a question of a trade-off between the selected customer base and the needed resources.

In addition, it is essential that the service provider ensures that the customer company is aware of the potential commercial benefits of innovative services. In case of mobile advertising, the advertiser should realise that the commercial potential of the mobile service is different from the

traditional means of advertising. Thus, if the m-advertiser evaluates the commercial benefits of the mobile advertising through similar criteria as traditional advertising (e.g. contacts reached through newspaper ads), it is likely that the advertiser is very dissatisfied. The m-advertisers should realise that m-advertising is not a mass communication, but highly personalised interaction.. This means that through m-advertising, it is possible to reach niches that would be difficult to reach by the traditional marketing channels (e.g. young men interested in technology). Also, through mobile advertising, it is possible to deliver personalised messages to the loyal customers (e.g. through utilising CRM databases). Moreover, finding new customers may become feasible through the possibility of finding out what kinds of customers act upon their m-ads. In relation to the commercial benefits revealed by the empirical study, also the possibility that m-advertising provides for the advertiser to enhance its public image became evident. Through using m-advertising, a company may develop its image as a modern and future-oriented company, which may attract certain customers. Moreover, the receivers of m-ads may forward the most useful or entertaining m-ads to their friends and family. By reaching a central person in a social network, a m-ad may be forwarded quickly to individuals that are both interested in the m-ad and find it reliable and important since it is distributed via an individual to whom they trust.

Finally, mobile advertising, as any form of traditional advertising should be evaluated as a part of the advertising mix, or integrated marketing communication. Thus, the mobile advertising service provider should discuss with the customer the specific features of this new type of advertising media, so that the advertiser can set specific and realistic objectives for the media. Without this understanding the value creation in the service relationship could be hampered.

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